

0990102-112101

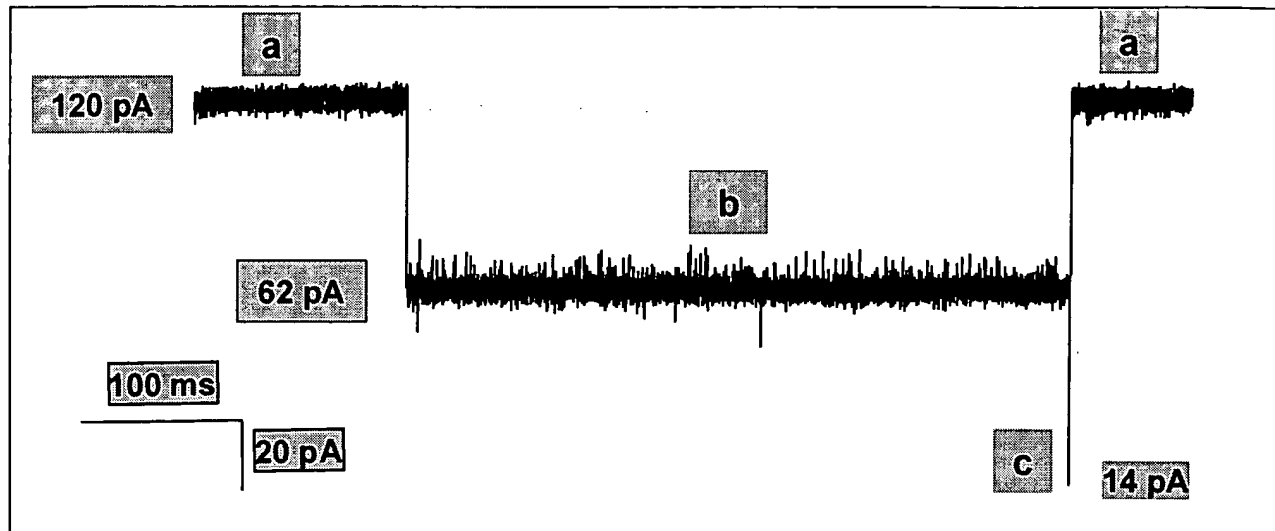


Figure 1

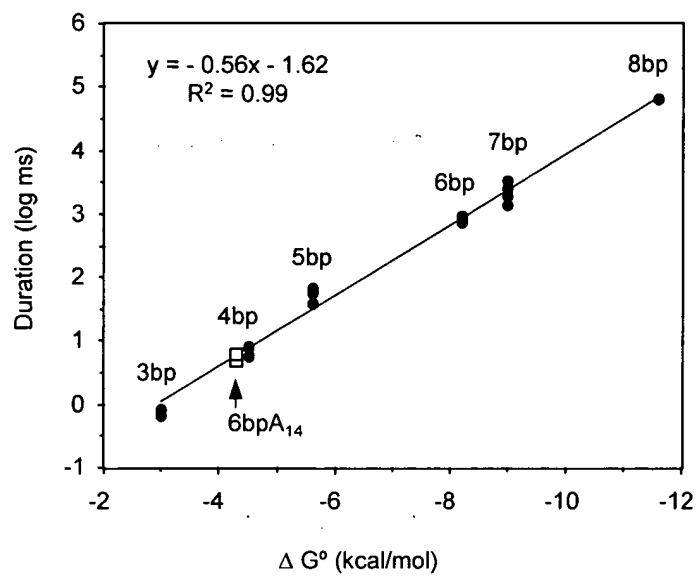


Figure 2

03990102-143104

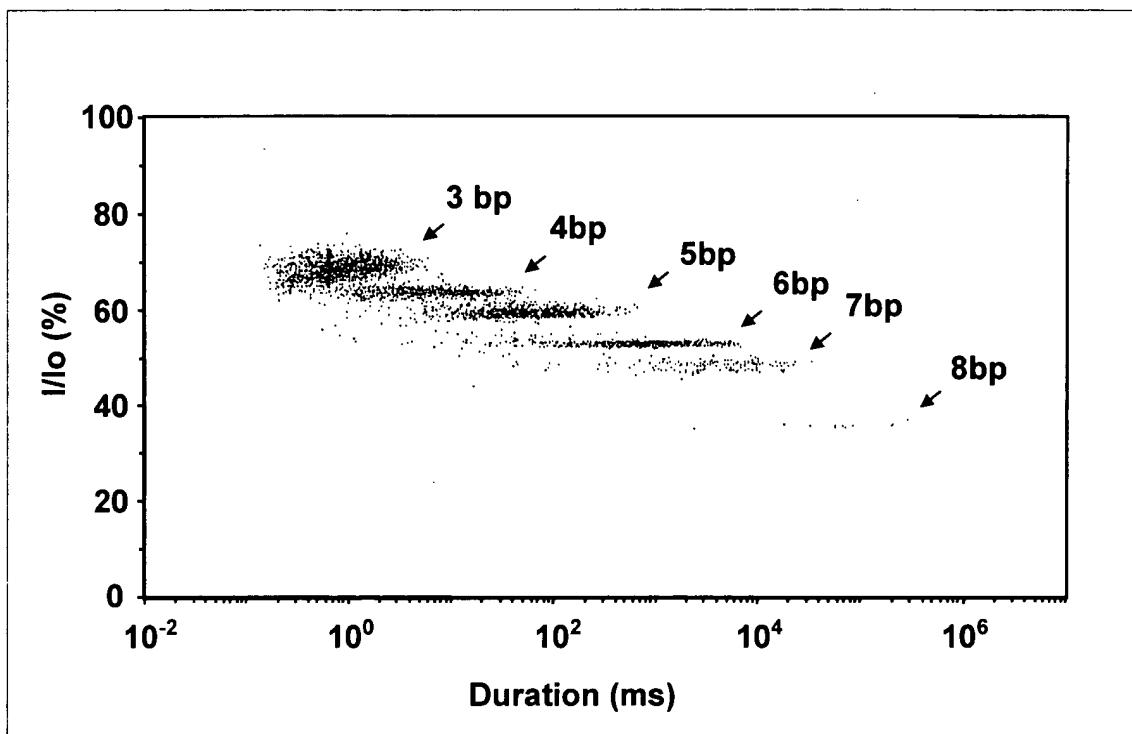


Figure 3a

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0072120560

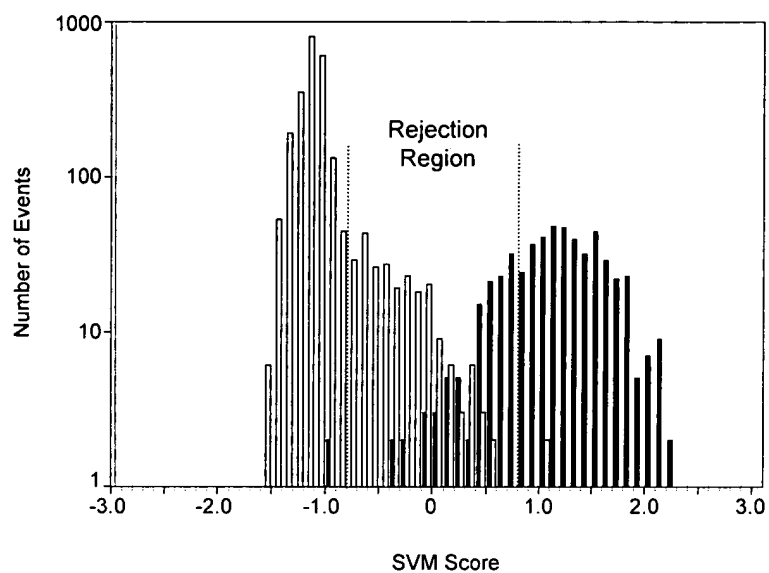


Figure 3b

0990403 112104
T0T2T 20T0550

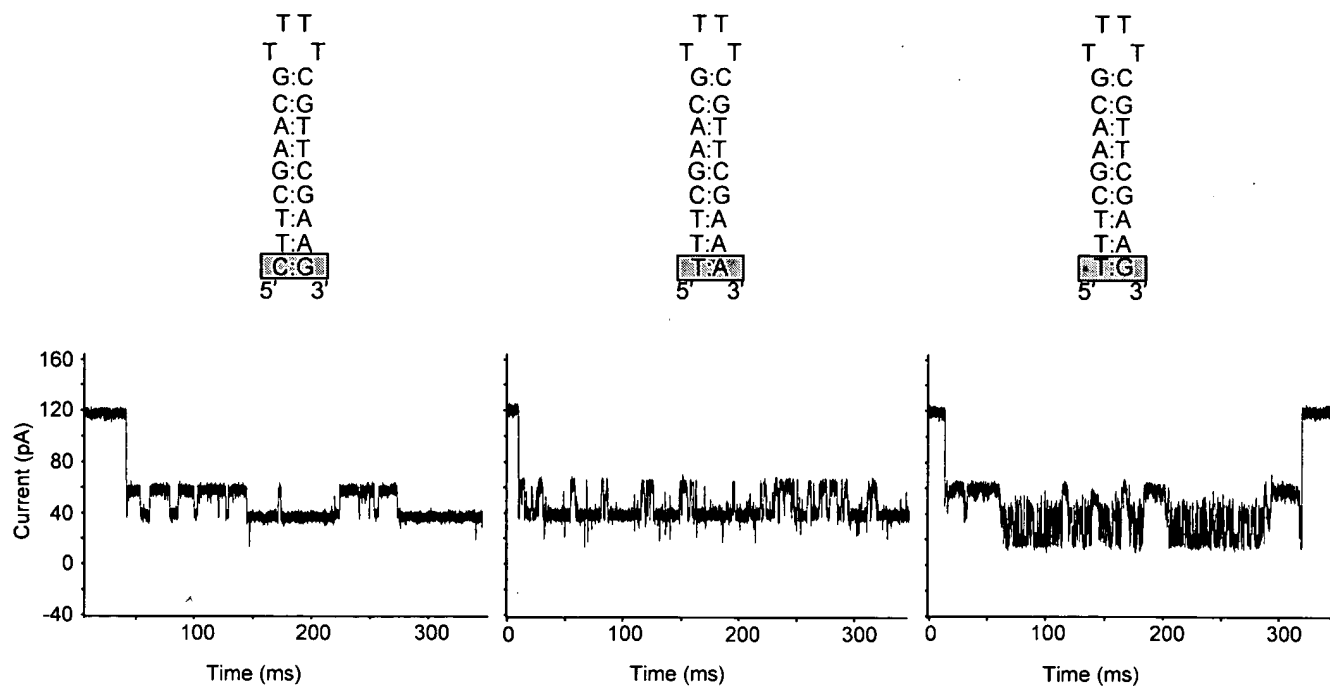


Figure 3c

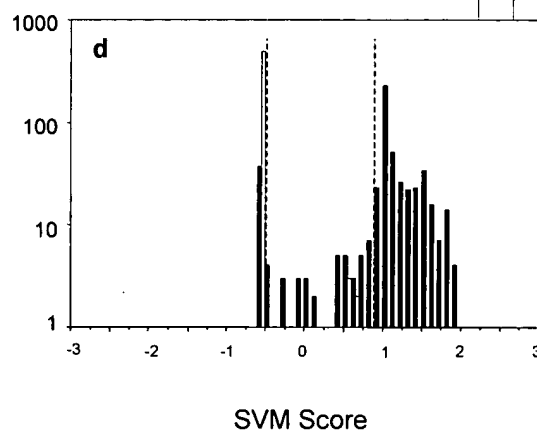
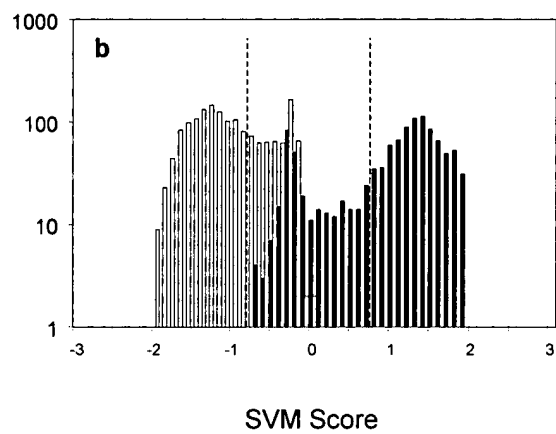
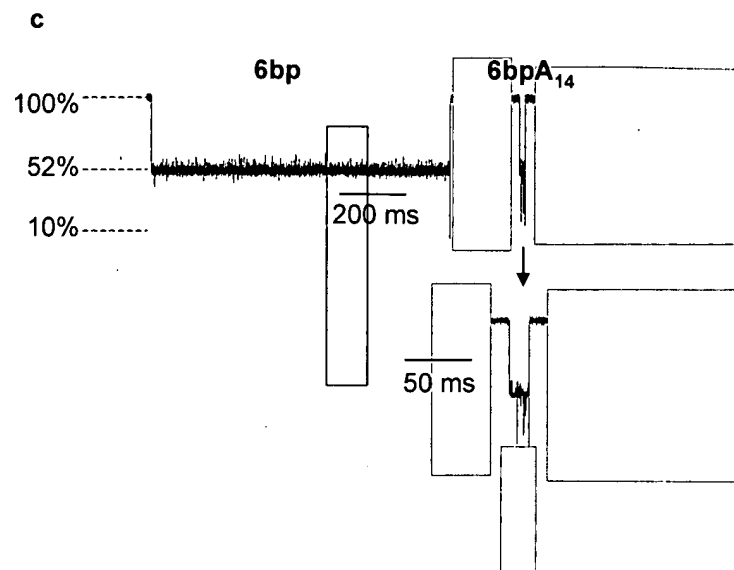
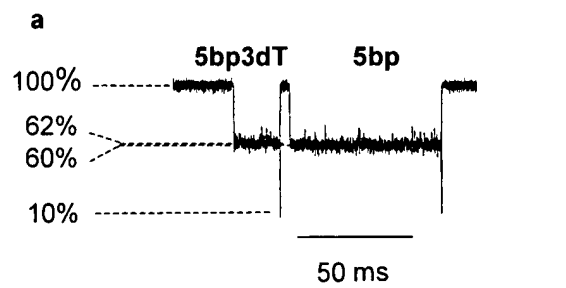


Figure 4

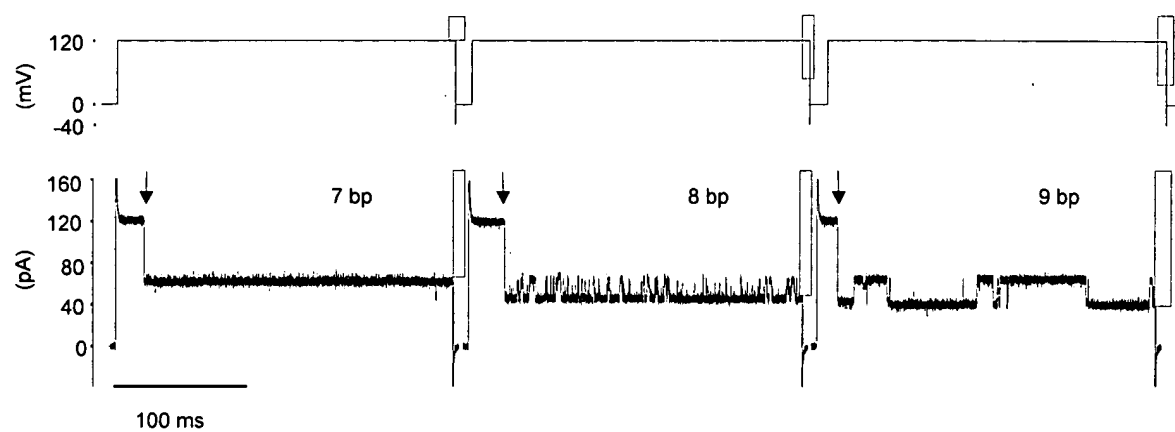
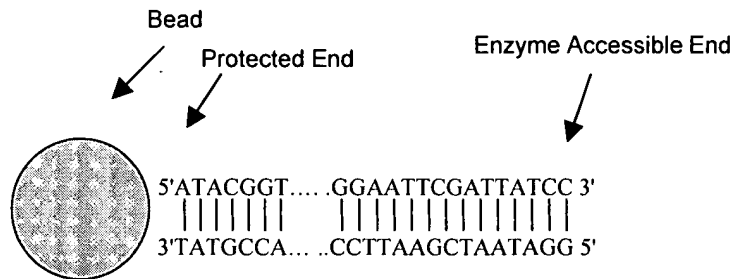


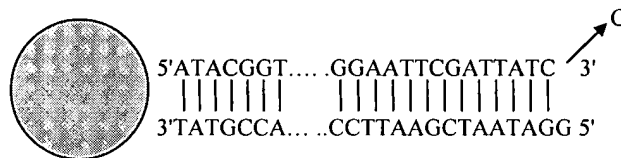
Figure 5

Figure 6.

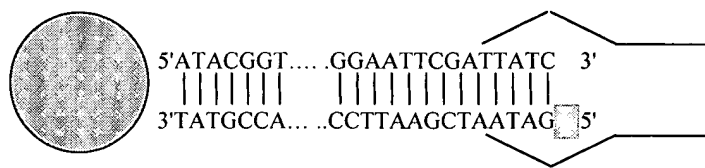
A) Blunt-ended DNAs are attached at one end to a bead.



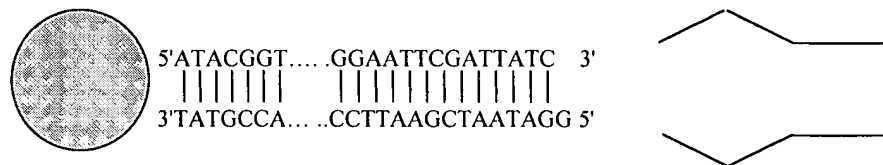
B) A single nucleotide is cut from the 3' end by a low processivity exonuclease such as exonuclease III.



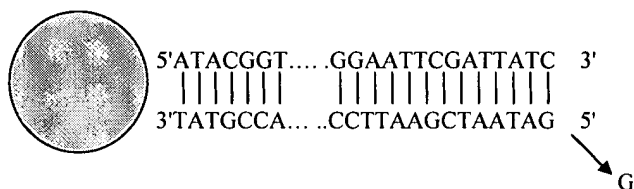
C) The single nucleotide overhang at the 5' end is read when the duplex end is captured in the nanopore under an applied voltage.



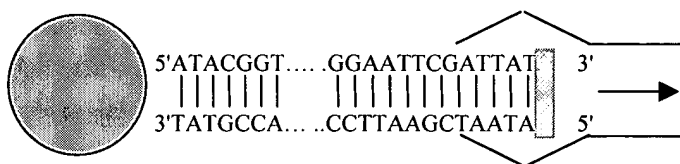
D) Once read, the DNA duplex is released from the nanopore by reversing the applied voltage.



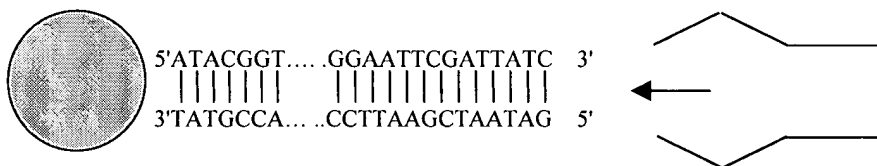
E) The single-nucleotide overhang is then cut with a nuclease (such as mung bean exonuclease), resulting in a blunt end.



F) The blunt end is then captured and held in the nanopore by an applied voltage. The terminal base-pair is identified while the duplex is captured.



G) Once read, the DNA duplex is released from the nanopore by reversing the applied voltage. The cycle is then repeated at step B).



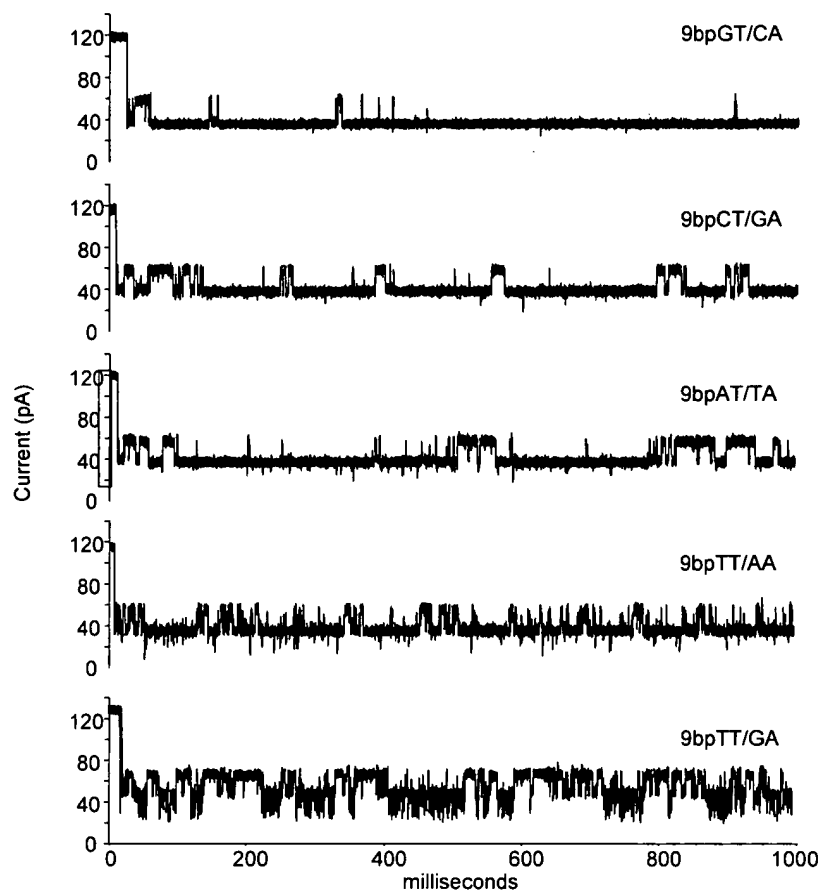


Figure 9

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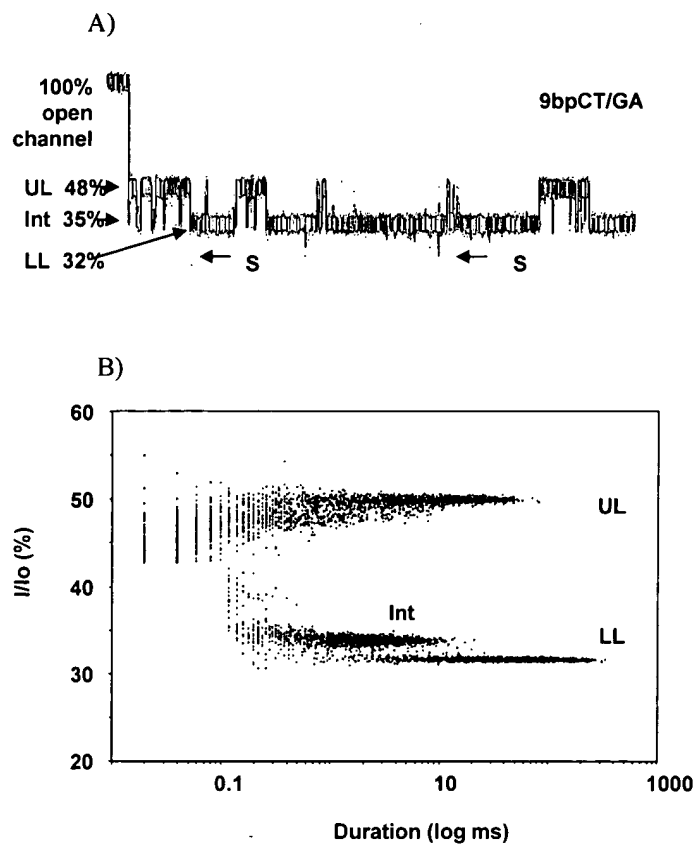


Figure 10

0990103-113101

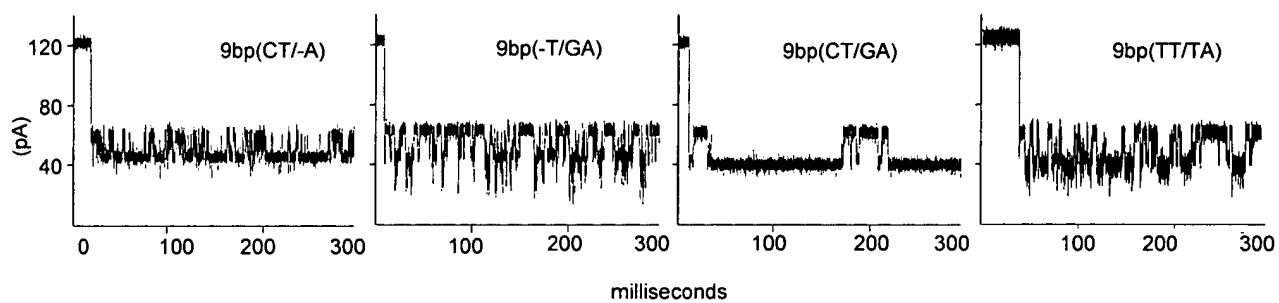


Figure 11

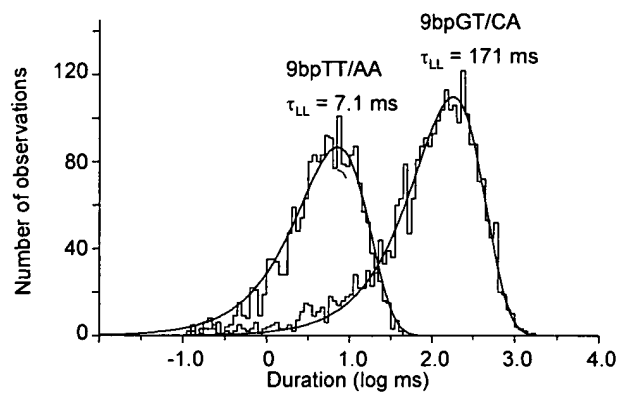


Figure 12

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0990103-142404

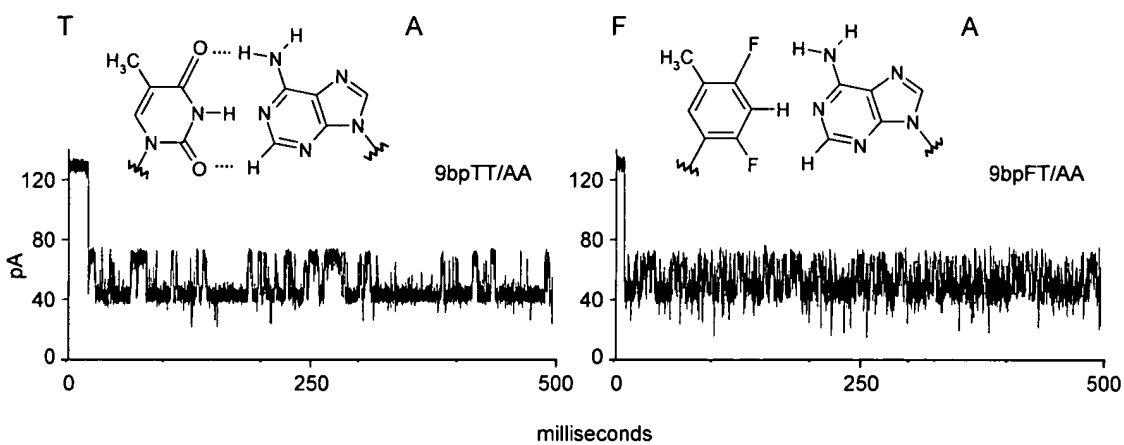


Figure 13

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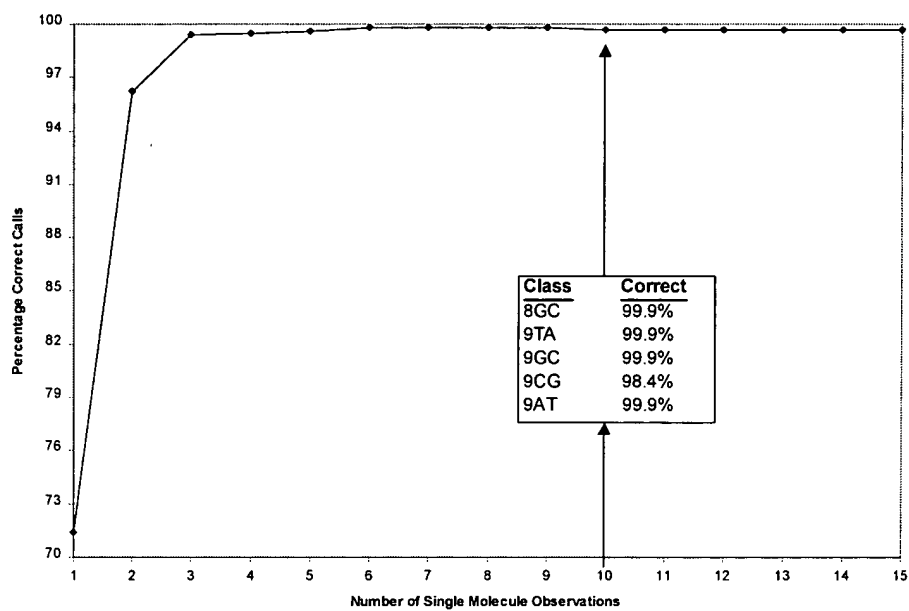


Figure 14

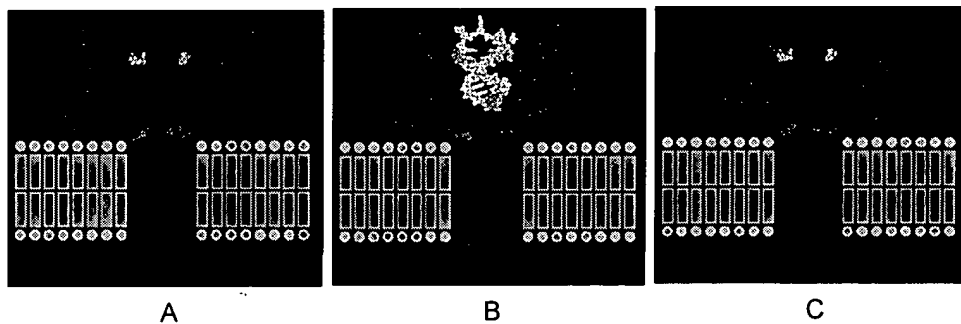
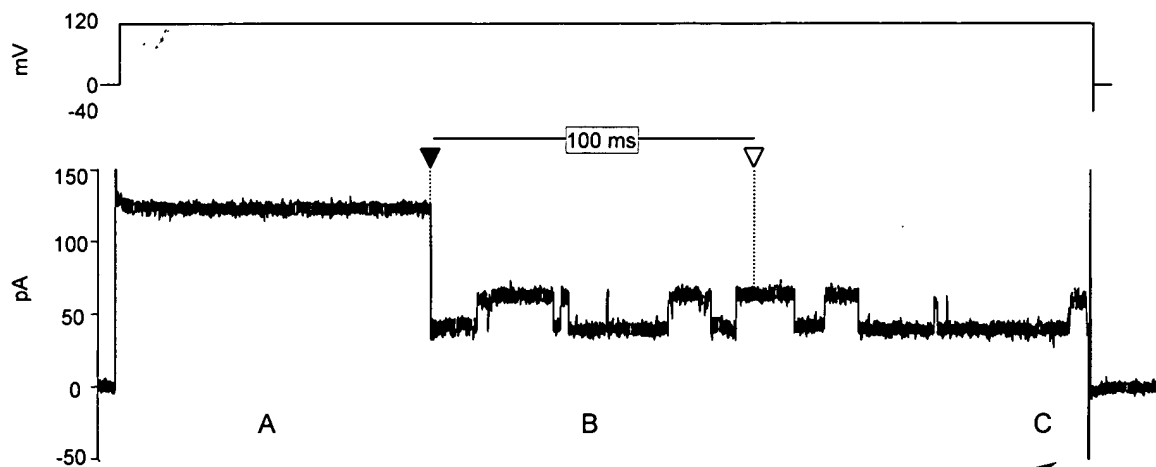


Figure 15.

09990102-112401